

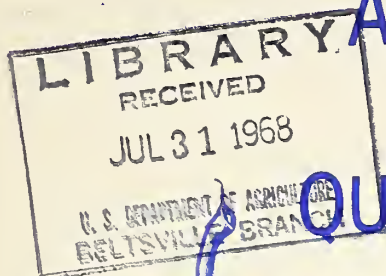
Historic, archived document

Do not assume content reflects current scientific knowledge, policies, or practices.

1
7884L

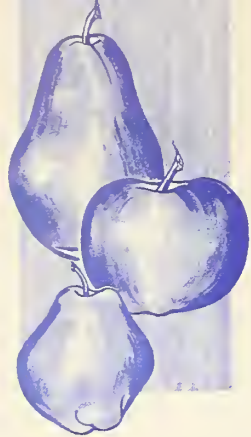
#187 rev copy
C.2

Blight of PEARS, APPLES, and QUINCES



Leaflet No. 187

U. S. DEPARTMENT OF AGRICULTURE



Blight of PEARS, APPLES, and QUINCES

Blight, sometimes called fire blight or pear blight, is a common and destructive bacterial disease of pears and quinces. Blight attacks apples, too, and sometimes damages ornamental plantings of hawthorn, spirea, pyracantha, flowering almond, and mountain ash.

Blight attacks (1) blossoms and young fruits, causing them to blacken and die; (2) tender tips of twigs and water sprouts, often killing back the twigs for a foot or more and causing leaves to turn black; (3) spurs, large branches, trunk, collar (base of the tree), and roots. In a single season, blight can severely damage—or kill—the tree it attacks.

Blight usually appears first when fruit trees are in blossom and stays active until rapid spring growth stops (about a month after blooming). Don't prune or fertilize your fruit trees too heavily during this time. These practices may stimulate the trees to put out succulent growth, which is extremely susceptible to blight.

Blight of pears

Blight is so destructive to Bartlett, Clapp Favorite, Bosc, Flemish Beauty, and other high-quality pears, that these varieties can be commercially grown in only a few favored localities. In fact, most of our marketed pears are grown in three States—California, Oregon, and Washington.

Blight of apples

Blight sometimes damages blossom clusters and young shoots of such susceptible apple varieties

as Jonathan, Yellow Transparent, Wealthy, and Transcendent Crab. Although blight is especially destructive in some seasons, it seldom is serious enough to prevent commercial apple production.

Blight of quinces

Quince trees are as susceptible to blight as the most susceptible pear varieties. Although quinces are not commercially important in this country, small quantities of them are grown for processing into jams and jellies.

HOW BLIGHT SPREADS

Bacteria that cause blight in the spring usually overwinter in cankers in the bark of large branches, trunks, or roots of trees attacked the previous year. Occasionally they overwinter in twigs or small branches.

Pollinating insects, especially honey bees, play a major role in spreading fire blight bacteria during the early growing season. From blight cankers, the bacteria are carried to open blossoms, and from blossoms to other trees. Other insects that come in contact with the bacteria also help spread the disease. Insects, and probably rain, to some extent, carry bacteria from blossoms to twigs and water sprouts.

Usually hot, dry summer weather and the accompanying hardening of tree tissues prevent new blight infections, while helping old ones to die out. Sometimes, however, blight bacteria are so favorably situated in thick bark they do not dry out and are able to persist in holdover cankers.



BN-29478

This Bartlett pear tree was killed by a severe blight attack. The healthy trees in the background were not infected.

HOW TO CONTROL BLIGHT

To control blight, prune out cankers and other diseased parts, apply spray or dust, or do both. The method you choose will depend on your location, and on the extent of the blight infection. Consult your county agricultural agent or State agricultural experiment station for specific control recommendations.

Pruning

In late summer, inspect your trees and cut out all blighted twigs. Make cuts at least 8 to 12 inches below the diseased part of the twig. Cut out blighted tissue in the large limbs and trunk; extend the cuts well into healthy tissue.

Inspect your trees again in late fall or early winter, after the leaves are off and it is easier to spot cankers that you might have missed.

Do not prune blighted blossoms and twigs in the spring, except when only a few trees are lightly infected. Postpone pruning until late summer or

early fall, when blight usually is no longer active and the risk of spreading the infection is not as great.

Sometimes blight affects fruit trees so severely you cannot cut away all blighted parts without killing the trees. In these cases, it is often effective to paint the cankered or diseased areas with a formulation of zinc sulfate or cadmium sulfate. However, because these chemicals can injure the healthy tissues next to treated areas, you should apply them carefully.

To prevent infection in tree parts that you have pruned, treat wounds and cuts larger than 2 inches in diameter with a tree-wound dressing.

After making each cut, dip the pruning tools in diluted household bleach (sodium hypochlorite). Mix 1 cup of the bleach (commercial 5.25% strength) with 9 cups of water. **Note:** Since this solution will corrode metals, wash your tools in water at the end of each day's pruning. Then dry and oil them, to prevent rusting.

Spraying and dusting

You can supplement pruning and the application of canker paints with a spray of *zineb* (1½ pounds of 75% formulation in 100 gallons of water); of weak *bordeaux mixture* (2 pounds copper sulfate and 6 pounds hydrated lime in 100 gallons of water); of *commercial copper spray mixture* (1½ to 2 pounds of 53% formulation in 100 gallons of water); or, you may prefer to dust with a *copper-lime mixture* (20 parts finely ground copper sulfate, with 80 parts hydrated lime).

Copper-base sprays or dusts applied to fruit trees during or after spring blossoming may cause the fruit to russet (roughen and develop tough skin). To help prevent russetting, apply sprays only when they will dry quickly.

Streptomycin (an antibiotic) is also very effective in controlling blight. Begin antibiotic spray applications when your trees are at 5- to 10-percent bloom. Spray every 3 to 5 days during blossoming. Stop spraying when petals have fallen, to avoid accumulation of antibiotic residues. (This is unnecessary when you use the other sprays suggested.)

A chief advantage of using antibiotic sprays is that they are absorbed by plant foliage, and are carried throughout the plant to all blighted parts. However, this sometimes causes a yellow-green mottling of the leaves (chlorosis), which disappears only after you discontinue application of the antibiotic.

PRECAUTIONS

Pesticides used improperly can be injurious to man and animals. Use them only when needed, follow directions for application, and heed all precautions on the labels.

Keep pesticides in closed, well-labeled containers in a dry place. Store them where they will not contaminate food or feed, and where children and animals cannot reach them. Promptly dispose of empty pesticide containers; do not use them for any other purpose.

Avoid repeated or prolonged contact of pesticide with your skin. Avoid prolonged inhalation of sprays and dusts. After applying pesticides, do not eat, drink, or smoke until you have washed your hands and face.

Do not apply insecticides to your fruit trees during hours when honey bees or other pollinating insects might be visiting them.

It is difficult to remove all traces of herbicides from equipment. To prevent injury to your fruit trees, do not use the same equipment for applying blight-control pesticides that you use for applying herbicides.



Use Pesticides Safely
FOLLOW THE LABEL
U.S. DEPARTMENT OF AGRICULTURE

Prepared by
Crops Research Division
Agricultural Research Service

Washington, D.C.

Revised July 1968

For sale by the Superintendent of Documents, U.S. Government
Printing Office, Washington, D.C. 20402 - Price 5 cents

